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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781.580

02/18/2004

Russell T. Nakano

112003.P002

3059

40418 7590
HEIMLICH LAW
5952 DIAL WAY
SAN JOSE, CA 95129

01/11/2007

EXAMINER

BROWN JR, NATHAN H

ART UNIT

PAPER NUMBER

2121

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/11/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/781,580

Applicant(s)

NAKANO, RUSSELL T.

Examiner

Nathan H. Brown, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE (3) MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-62 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Examiner's Detailed Office Action

1. This Office is responsive to application 10/781,580, filed February 18, 2004.
2. Claims 1-62 have been examined.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-62 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter: mathematical abstraction and/or algorithm or software per se.

Furthermore, the claims act to preempt application of "fundamental" mathematical operations presented to solve problems in text recognition, search, and retrieval. As the Specification discloses:

The present invention is a method and apparatus for fundamental operations on token sequences: computing similarity, extracting term values, and searching efficiently" (*see* p. 16/93, [0028]).

and further,

... text merely happens to represent one instance of a general class of data type. Text is nothing more than a particular sequence of tokens. The techniques described herein can be used to analyze any other input data that can be interpreted as a sequence of tokens. (*see* p. 17/93, [0031])

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The Specification further states, that to

succinctly explain the present invention ... the description proceeds in three parts. First, is introduced a "profiling" module that takes input text and computes a profile, which is a combination of symbolic and numerical information that summarizes essential aspects of the input "text". Second, is shown how a "similarity" module uses a profile to take an arbitrary input text and compute a numerical similarity score. Third, this fundamental capability is applied to solve a number of important problems in information retrieval, including recognizing similar blocks of text, extracting values of terms within a block of text, and fast indexing and retrieval of text blocks. (*see* p. 18/93. [0034])

Clearly, the invention is directed to "symbolic and numerical information", i.e., mathematical abstraction.

Because of the large number of possible embodiments, the Applicant has provided a "theory of operation" which may be used in the various embodiments (*see* pp. 20/93 – 26/93). Further, the

Specification states that

[00130] ...it is appreciated that throughout the description, discussions utilizing terms such as "processing" or "computing" or "calculating" or "determining" or "displaying" or the like, can refer to the action and processes of a computer system, or similar electronic computing device, that manipulates and transforms data represented as physical (electronic) quantities within the computer system's registers and memories into other data similarly represented as physical quantities within the computer system memories or registers or other such information storage, transmission, or display devices.

[00131] An apparatus for performing the operations herein can implement the present invention. This apparatus may be specially constructed for the required purposes, or it may comprise a general-purpose computer, selectively activated or reconfigured by a computer program stored in the computer. Such a computer program may be stored in a computer...

In essence, the Specification discloses that no real-world transformation of physical quantities (other than that resulting from the execution of algorithms disclosed) occurs as a result of the operation of the invention, and thus no practical physical real-world result is directly produced by the invention.

Claims 1-9, 14, 15-20, 21, 22, 23-26, 34-37, 38-42, 43-46, 47-51, 52-53, 54-58, and 59-62 are method claims reciting the process of generating the various mathematical abstractions (e.g., “a similarity space”) disclosed. Clearly, these claims include the § 101 judicial exceptions of mathematical abstraction and/or algorithm. As disclosed in the Specification, no physical transformation is associated with the invention. While the result of operating the invention claimed may be useful and concrete, the tangible requirement does require that the claims must recite more than a § 101 judicial exception, and set forth a practical application of any § 101 judicial exceptions to produce a real-world result. Independent claim 1 recites as a result “generating a similarity space”. Independent claim 14 recites as a result “generating a similarity metric”. Independent claim 15 recites as a result “generating a similarity space”. Independent claim 22 recites as a result “generating a similarity indication”. Independent claim 23 recites as a final result “generating a similarity score”. Independent claim 34 recites as a result “generating a measure of similarity”. Independent claim 38 recites as a result “tallying all words that fall within r tokens of said tuple”. Independent claim 43 recites as a result “generating a similarity measure”. Independent claim 47 recites “determining a high similarity measure”. Independent claim 52 recites as a result “generating a similarity space”. Independent claim 54 recites as a result “finding a closest matching N text block for said T text block”. Independent claim 59 recites “determining a high similarity measure”. Clearly, all of the results of the method claims are mathematical abstractions, not real-world results. Therefore, claims 1-9, 14, 15-20, 21, 22, 23-26, 34-37, 38-42, 43-46, 47-51, 52-53, 54-58, and 59-62 do not produce a useful, concrete, *and* tangible result. Further, these claims act to seek patent protection for the calculation of

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range of known mathematical constructs associated with measurement of similarity in data. Inputting vector and probability spaces, generating similarity spaces, generating similarity metrics based upon eigenspace analysis, etc. are fundamental to all numerical pattern recognition techniques as they comprise an elementary use of vector-matrix arithmetic to transform numerical data, which includes numerical representations of tokens. Clearly, claims 1-9, 14, 15-20, 21, 22, 23-26, 34-37, 38-42, 43-46, 47-51, 52-53, 54-58, and 59-62 are non-statutory under 35 U.S.C. 101.

Claims 10-11, 12-13, and 27-30 are claims for an apparatus deriving a similarity measure from vector and probability spaces. As these claims are for a machine, but recite no hardware, they are clearly directed to software per se, and are thus non-statutory under 35 U.S.C. 101. Further, the claims include the § 101 judicial exception of mathematical abstraction. Since, no claim in this group recites a physical transformation or a tangible result, the claims recite no more than a § 101 judicial exception and are non-statutory under 35 U.S.C. 101.

Claims 31-33 are claims for a “means for computing a similarity measure”. Again, these claims recite no more than the § 101 judicial exceptions of mathematical abstraction and/or algorithm and are thus non-statutory under 35 U.S.C. 101.

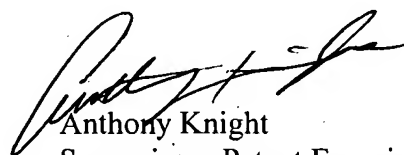
Applicant should note that no prior art has been applied to the claims. No opinion is expressed with regards to the patentability of the claims over any art in this office action, since applicant's

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response to the rejection under 35 USC 101 should impact the scope and applicability of any art to the claims.

Correspondence Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan H. Brown, Jr. whose telephone number is 571-272- 8632. The examiner can normally be reached on M-F 0830-1700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight can be reached on 571-272-3687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Knight
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Tech Center 2100

Nathan H. Brown, Jr.
January 4, 2007